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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 18

Application Number: 08/701,457
Filing Date: August 22, 1996
Appellant(s): Yahata et al

William L. Brooks
For Appellant

EXAMINER'S ANSWER

This is in response to appellant's brief on appeal filed September 24, 1999.

A statement identifying the real party in interest is contained in the brief.

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

The statement of the status of the claims contained in the brief is correct.

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

The summary of invention contained in the brief is correct.

The appellant's statement of the issues in the brief is correct.

Appellant's brief includes a statement that claims 1-5,8-11,19-29,36 and 12,14,15,17,18,32-35 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

The copy of the appealed claims contained in the Appendix to the brief is correct.

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

5,408,243	D'HONT	4-1995
3,031,667	WENNERBERG	4-1962
3,495,264	SPEARS	2-1970
3,750,180	FUJIMOTO ET AL	7-1973
4,937,586	STEVENS ET AL	6-1990
4,879,570	TAKIZAWA ET AL	11-1989

Claims 1-5,7-11,19-29 and 36 stand rejected under 35 U.S.C. 103(a) as being unpatentable over D'Hont in view of Wennerberg, Spears or Fujimoto et al. This rejection is set forth in prior Office action, Paper No. 8, mailed July 22, 1998.

Claims 12,14,15,17 and 18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Stevens et al in view of Takizawa et al and D'Hont. This rejection is set forth in prior Office action, Paper No. 8, mailed July 22, 1998.

Claims 32-35 stand rejected under 35 U.S.C. 103(a) as being unpatentable over D'Hont in view of Stevens et al and Takizawa et al. This rejection is set forth in prior Office action, Paper No. 8, mailed July 22, 1998.

Appellant's arguments will be addressed in the order that they appear on the eighth through tenth pages of the Brief, titled "C. APPELLANT'S ARGUMENT".

Appellant's first argument addresses the combination rejection of obviousness involving D'Hont in view of Wennerberg, Spears or Fujimoto et al, and states that there must be a showing, teaching or suggestion in the prior art of the specific claimed combination of structural elements, and cites the particular court cases in support thereof.

D'Hont discloses an antenna for a badge or similar object which is the same environment of appellant's invention. Appellant argues that D'Hont teaches away from the present invention because there is only a single stack of rectangular thin plates as recited in Claim 1 of the present invention. Claim 1 includes the term "comprising" and recites "a

magnetic core composed of a single stack of rectangular metallic thin plates". Claim 1 of the present invention does not state that ***only*** a single stack is a requirement of the invention. The term "comprising" is used and therefore at least such a single stack of plates must be defined as the minimum requirement to form the invention. D'Hont teaches at least a single stack of rectangular metallic thin plates. Figure 7 of D'Hont shows at least a single stack composed of thin metallic plates 42a,42b,42c, and 42d, as described in the sentence bridging columns 3 and 4. The bundled array of plates in Figure 7 (and Figures 8a,8b and 8c) can clearly be deemed a *single stack* (of...plates) when placed in the badge, credit card or similar object. The level of ordinary skill in the antenna art is such that a single stack of plates, as recited in Claim 1, is within the teaching of D'Hont. A single stack of plates must first be formed in D'Hont and the entire bundle may therefore be deemed a single stack. Appellant's Claim 1 does not preclude the use of the structure in D'Hont as a single stack of plates.

A further argument by Appellant (on the ninth page of the Brief) states that D'Hont fails to teach, mention or suggest any relationship of the orientation of the coil and the dimensions of the rectangular flat plates forming the core as recited in Claims 1 and 19. Failing to mention a particular direction of winding, in D'Hont is merely a suggestion to the skilled artisan that the winding direction is an obvious design choice. However, it should be pointed out that the language used in Claim 1 of the present invention merely implies a "greater rectangular dimension" be parallel to the winding of the coil. The "PRIOR ART" Figure 1 of D'Hont clearly shows the winding of the coil parallel to the greater rectangular

dimension of the core. Claim 1 of the present invention includes "a coil wound on said magnetic core parallel to a greater rectangular dimension of said magnetic core". D'Hont shows the rectangular core in Fig. 1, where the "vertical" side is the shortest and the "horizontal" side is the "greater rectangular dimensions", as claimed. The arrangement in Figure 3 of D'Hont also shows such a winding, where the "vertical side" (or dimension) is the shortest and the "horizontal" side (dimension) is the "greater rectangular dimension". The skilled artisan would wind the coil of Figure 7 in the same way as Figure 3. It should be noted here that Claim 1 of the present invention does not specifically state that the coil is wound parallel to the "length" of the core; only that the coil is wound parallel to *"a greater rectangular dimension"* of the core. Additionally, the language used in Claim 1 does not imply that a "length" of the core is a "greatest" dimension. Appellant's Figure 6B shows the "greater" dimension of the core being parallel to the winding; being identical to D'Hont. The patent to Wennerberg was cited as evidence of obviousness and as resolving the level of ordinary skill in the antenna art, where coils 11 and 12 are well known to be wound parallel to the "greatest rectangular dimension" and the "greater rectangular dimension", respectively, of the core 10. Such winding about a core is evidence of obviousness and a skilled artisan would have found it obvious to employ such a winding in D'Hont. Similarly, the patent to Spears resolves the level of ordinary skill in the antenna art and shows coils 22 and the coil about antenna 21, wound parallel to greatest and greater dimensions of the core. A skilled artisan would have found it to have been obvious to wind the coil in D'Hont as taught by Spears.

Finally, the patent to Fujimoto et al shows in Figure 4, a coil parallel to a greater dimension of the core and coil between terminals 12 parallel to the greatest dimension of the core 7. A skilled artisan would have found it obvious to employ such winding technique in the core of the D'Hont antenna.

Appellant presents an argument to the obviousness rejection applied to claims 12,14,15,17 and 18 in the paragraph bridging the ninth and tenth pages of the Brief. As presented in the final rejection of paper number 8, Stevens was cited for its perpendicular arrangement of antennas which consist of an air core loop 46 and a magnetic core antenna 48 used on a common substrate. The patent to Takizawa et al shows an improvement of the basic ferrite core antenna element (like 48 in Stevens et al, which provides bi-directionality) which consists of an array of perpendicular segments formed on a common core in Figure 1 for the purpose of providing omnidirectionality (column 1, lines 47-51 and lines 59-64, and column 2, lines 12-15). It would have been obvious to the skilled artisan to employ the omnidirectional, magnetic core antenna of Takizawa et al in lieu of the bi-directional one 48 of Stevens et al for that purpose. D'Hont was merely cited to show evidence of obviousness and as resolving the level of ordinary skill in the antenna art showing a magnetic core composed of layered metallic thin plates for forming an antenna of a high quality factor. One skilled in the art would look to D'Hont for defining and forming such a high quality factor antenna to be used in Stevens et al/Takizawa et al. The final argument involves Claims 32-35 and essentially states that the three coils set forth in the obviousness rejection of D'Hont in view of Stevens et al and

Takizawa et al et al do not have axes that are mutually perpendicular. However, since there are an array of perpendicular coil axes in Takizawa et al, the air core loop also has an axis perpendicular thereto, when the Takizawa et al antenna is employed in lieu of the straight ferrite bar loop 48 of Stevens et al. All coil axes are mutually perpendicular.

Since the scope and contents of the prior art have been determined, the differences between the prior art and the claims have been ascertained, and the level of ordinary skill in the antenna art has been resolved according to the Graham v. Deere test for obviousness, a *prima facie* case for obviousness has been set forth.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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Primary Examiner

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May 5, 2000

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